# GOVERNMENT OF INDIA
# EARTH SCIENCES
# LOK SABHA

UNSTARRED QUESTION NO:2763
ANSWERED ON:11.05.2016
Creation of Landslide Compendium
Kataria Shri Rattan Lal

**Will the Minister of EARTH SCIENCES be pleased to state:**

(a) whether there are reports that large tracks of mountains are unstable in Jammu and Kashmir, Himachal Pradesh and Uttarakhand and if so, the details thereof;

(b) whether Geological Survey of India (GSI) has launched a project to create a landslide compendium for north western Himalayas and if so, the details thereof; and

(c) whether GSI has recently created a cell for geo-hazards research and management to implement this programme in collaboration with the concerned landslide prone regions of the country and if so, the details thereof?

## Answer

THE MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a) Yes Madam. Landslides are a common geomorphic hazards in all these three Himalayan states which is generally triggered by heavy rainfall in almost every year and also often by major earthquakes in this active Himalayan Fold-Thrust-Belt. Available landslide susceptibility and inventory maps along important pilgrimage routes, road-corridors, river basins and site-specific large scale (1:2000 or larger) landslide maps have already revealed that within these Himalayan states, parts of many mountainous tracts and locations are highly vulnerable and susceptible to landslides or has already failed because of active landsliding.

The highly unstable zones studied by Geological Survey of India (GSI) in Uttarakhand, Himachal Pradesh and Jammu & Kashmir are given in Annexure-I.

(b) Yes Madam. GSI has launched a two-year project to create a landslide compendium for north western Himalayas. The project started on 1 April, 2014. The details of project outcome are given below.

â€¢ The compendium includes all major landslide studies carried out by GSI till 2013 in the NW Himalayas in the States of Uttarakhand, Himachal Pradesh and Jammu & Kashmir.
â€¢ The type of information included in the compendium are (i) Landslide Susceptibility Maps on scale 1:50,000 covering parts of river basins such as Ramganga, Ganga, Yamuna, Bhagirathi, Sutlej, Beas, Ravi, Chenab river basin etc; (ii) Landslide Susceptibility Maps on scale 1:50,000/25,000/10,000 covering major towns such as Pithoragarh, Bageshwar, Joshimath, Vaishno Devi, Ranikhet, Shimla etc; (iii) Landslide Susceptibility Maps on scale 1:50,000 covering important pilgrimage road corridors such as Yamunotri yatra route, Gangotri yatra route, Kedarnath-Badrinath yatra route, Kailash-Mansarovar yatra route, Harkidun road, Narkanda-Rampur-Khab Road, Kangra-Dharmshala-Sihunta-Dalhousie Road, Kalka-Shimla Narrow Gauge Railway Route, Arakot-Rohru-Narkanda-Theog-Chail-Solan Road etc; (iv) site specific landslide investigations including detailed geological maps; (v) post disaster reconnoitary geological assessment of major landslide events including the recent 2013 Uttarakhand Disaster; and (vi) inventory of major landslides in a tabular form.

(c) Yes Madam. In August 2013 GSI has created a Geohazards Research & Management (GHRM) Cell in Kolkata. The project for creation of a landslide compendium for north western Himalayas is taken up by GHRM Cell in collaboration with GSI, Northern Region. The details are as given below.

â€¢ The GHRM Cell has been created following the recommendation of the 1st meeting of the Technical Advisory Committee (TAC) for Landslide Mitigation and Management in India, chaired by the Secretary, Ministry of Mines.
â€¢ GHRM Cell is primarily involved in Research & Development activities in the field of landslides and provides services to all landslide divisions of GSI for landslide related works, including mentoring the National Landslide Susceptibility Mapping (NLSM) programme of GSI.
â€¢ With an aim to collate the plethora of landslide data available in GSI repository and to publish them for public use, the GHRM Cell has taken the work of preparation of landslide compendium of NW Himalayas.